

A Phylogeny of Woollyboogers

In this exercise, you will construct a phylogenetic tree for a group of imaginary organisms known as Woollyboogers. The Woollyboogers are a morphologically diverse group, and your analysis will take advantage of this diversity. The outgroup (most primitive) taxon is indicated, as are six other Woollybooger taxa (A-F).

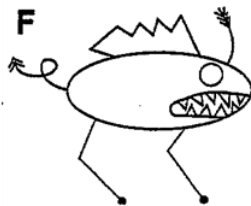
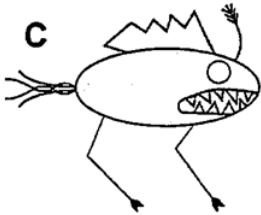
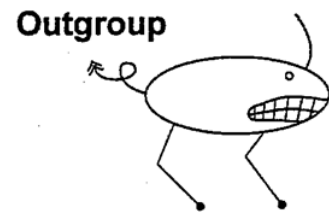
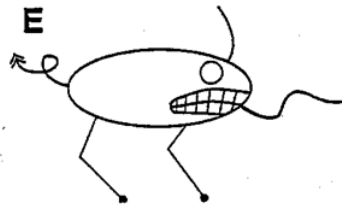
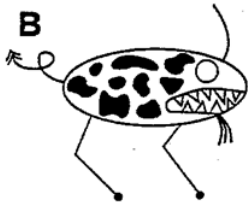
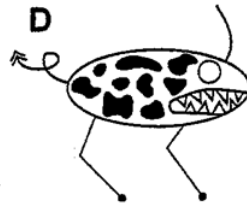
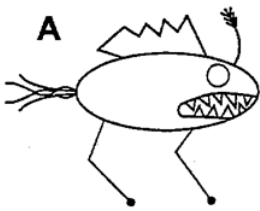


Table 1. Characters of the Woollyboogers

Character Name	Coding scheme	
<i>e.g., Ears</i>	<i>0: absent</i>	<i>1: present</i>
Eye Size	0: small	1: big
Teeth	0: flat	1: sharp
Antenna	0: simple	1: branched
Fin	0: absent	1: present
Feet	0: round	1: pointed
Tail	0: looped	1: brushy
Spots	0: absent	1: present
Beard	0: absent	1: present
Tongue	0: absent	1: present

Fill in the matrix below using Table 1 above.

Taxon	Characters									

Draw a phylogenetic Tree below that represents the data from the matrix.

Analysis

In a separate study that investigated an enzyme used in digestion, it was shown that Woollyboogers C & B were most closely related. Write a 1 page discussion on how the enzyme analysis and the one you performed...

- **are able to yield different findings**
- **the scientific implications of this**
- **how this provides evidence of both unity & diversity among life**